



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,940	02/13/2002	David C. Brown	GSI.6689-A	9836
7590	01/18/2005		EXAMINER	
WILLIAM E. HILTON SAMUELS, GAUTHIER & STEVENS 225 FRANKLIN STREET SUITE 3300 BOSTON, MA 02110			JONES, JUDSON	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary

Application No.

10/075,940

Applicant(s)

BROWN ET AL.

Examiner

Judson H. Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-17 is/are allowed.
- 6) ☒ Claim(s) 1,5,6 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 2-4,7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 120204
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because the outer bearing surface 11 as described in the specification on page 12 line 5 is shown in the drawings but has no number. According to page 13 of the specification, magnetic ring 50 is attached to the ball 10 (i.e., the movable member). In figure 3A the line for element 8 goes to the area between magnet ring portion 50a and the bottom of ball 10. Thus element 8 is not shown as being on a side of the movable member. In figure 12 the number 8 is shown as being a part of the fixed structure. In figure 12 the fixed structure has first and second sides 6 and 8 but the movable member doesn't have either a first side or a second side with a reference number. According to claim 1, the movable has to have first and second sides. Also claim 1 recites that first and second sides of the movable member must be accessible from opposing sides of the fixed member. As shown in figure 1, the bottom side of the movable member is not accessible because stator arms 70a, 70c and windings 60a, 60c block access to the movable member. There is an aperture 72 as described in page 15 lines 17-20 and as shown in figure 3A but that aperture would provide limited access to the movable member. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: What applicant means by "As shown in figure 3, the movable member 10 and the fixed member 40 each includes

Art Unit: 2834

a first side 6 and an opposing side 8.” is not understood. Opposing means placed opposite or against. While an element can have opposite sides, it is difficult for an element to have opposing sides. The drawing seems to show a fixed member 40 having a side 6 and a movable member 10 having a side 8 but sides 6 and 8 are on opposite sides of the element, they are not opposed to one another. Also the statement that “The fixed member is configured to provide free access to the movable member 10 on each of the first side 6 and the second side 8.” is not understood because stator arms 70a, 70c and windings 60a, 60c block access to the bottom side of the movable member.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over French reference 2452193A in view of Corcoran 6,664,666 B2. A translated copy of French reference ‘193 will be included in the next office action. French reference 2452193A discloses an apparatus having a magnetically permeable movable member 1 having a first top side and second bottom side as shown in figure 3, a fixed member 2, a fluid bearing or annular ball race bearing between the fixed and movable members and windings 8 but does not disclose a magnetic element fixedly attached to the movable member. French reference ‘193 discloses ferromagnetic teeth 21 in figures 3 and 4. Corcoran teaches a spherical motor having permanent

Art Unit: 2834

magnets and windings in column 7 lines 1-12 and teaches in column 8 lines 17-23 that permanent magnets create flux which couples through flux created by an electromagnet to provide torque. Since permanent magnets provide flux instead of relying on the coil windings to induce flux in the ferromagnetic teeth, the permanent magnet motor provides more power than the ferromagnetic motor. Since Corcoran and the French reference are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized permanent magnets on the movable portion of the apparatus in order to increase the output power of the device.

In regard to claim 5, the French reference abstract states, "The rotor and stator are held apart by a form of fluid bearing or annular ball races." Corcoran discloses mutually perpendicular electromagnetic forces in column 7 lines 1-3.

In regard to claims 6 and 9, see Corcoran column 16 lines 45-48.

In regard to claims 10 and 11, see Corcoran column 6 lines 44-55.

Allowable Subject Matter

Claims 12-17 are allowed.

Claims 2-4, 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach a coefficient of friction in combination with magnetic tractive forces to clamp a movable element in position in combination with the other features of claim 2. The prior art of record does not disclose or teach a bearing surface on the

Art Unit: 2834

second side of a movable member in combination with the other features of claims 7 and 12. The elements in the French reference that are viewed as being the first and second parts of the motor are the top and bottom flat portions of the motor as shown in figure French reference figure 3. Those portions are not bearing surfaces.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ackermann et al. US 2001/0017665 A1 (of record) does not have a valid date for use in a 35 U.S.C. 103 rejection because it was published after the effective filing date for the instant invention. If the Ackermann et al. becomes a patent, then the application will be usable as a reference because Ackermann et al. was filed before the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

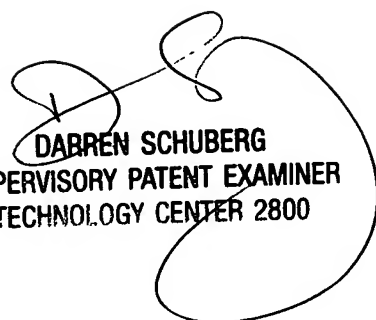
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/075,940

Page 6

Art Unit: 2834


JHJ 3/24/2004


DABREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800